AMSAT News Service Weekly Bulletins
Issue: ANS-312
Date: 2009-11-08
Sources: amsat-ans-2009-ans-312-weekly.txt

AMSAT NEWS SERVICE
ANS-312

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

In this edition:

* ARISS Prepares Amateur Radio Equipment for ISS
* AMSAT Board Votes to Add a Student Membership
* November AO-51 Schedule Includes V, U, L, SSTV
* SO-67 Testing Progress
* Dish Calculation Software Released by VK3UM
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-312.01
ARISS Prepares Amateur Radio Equipment for ISS

AMSAT News Service Bulletin 312.01
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.01

ARISSat-1 development work as well as the testing and delivery of the Amateur Radio antennas for the ISS Columbus module have been mentioned in prior week's news coverage. Now, as these projects prepare for space flight, is a good time for a summary report.

Columbus Module Antennas Ready for Flight

Rosalie White, K1STO reported on ARISS Columbus module antenna work via a feature story on the ARRL Web. She described Lou McFadin's W5DID, work on getting the antenna shipment from Europe cleared through customs and delivered to the Kennedy Space Center. Lou showed the astronauts the best ways for them to safely unpack and assemble the antennas and associated cables once they and the hardware reach the ISS. They reviewed how to maneuver and install the antennas during the second spacewalk of the STS-129 scheduled for Mid-November. These new antennas will increase opportunities for hams to make contacts with astronauts and cosmonauts. Frequencies available for transmission to and from Columbus will be 2 meters, 70 centimeters, L-band and S-band. To start, the two Ericcson radios (2 meters and 70 centimeters) that are already on the ISS (but seldom used) will be moved and installed in Columbus. Lou McFadin reported that the antennas are now loaded in the Shuttle and waiting for the November launch. Lou also developed a cable that will allow the astronauts to power the Ericsson radio from a computer power brick and get a station up and operating quickly.

ARISSat-1 Development Team Meets in Phoenix

Many of the ARISSat team met in Phoenix over the weekend of Oct 23-25

to work on software integration, to assemble the spaceframe and to make final measurements for the new cables. The team put in long hours at the Microchip facility where a number of new milestones were met.

+ The satellite was commanded via a radio.
+ New PSU (power supply unit) board was tested in the system.
+ New ICU (Interconnect board) was tested in the system.
+ New MPPT (Max Power Point Tracker) boards were tested with solar panels.
+ New solar panel test structure was built and used to test the power system.
+ The new 1k BPSK error correcting data was transmitted and received.
+ New telemetry data was transmitted.
+ Received data from the Russian experiment simulator and transmitted it.
+ Basic spaceframe was constructed.
+ The US made Ag-Zn battery was assembled and activated and will be available for testing.

The team is working hard to get the satellite completely operational by early Dec 2009, when in-depth system testing will begin. A NASA Safety Briefing for ARISSat-1 was held on Thursday 22 Oct 2009. The team was well prepared and only have a few items to provide additional descriptions for at the next safety review in December 2009.

The ARISSat-1 team also invites students from around the world to submit papers or other visual items that will be flown on the satellite. Submissions should be in jpg or pdf format such as a paper or a study done on science, technology, engineering, or math. Items such as a drawing of space craft, schematic, journal kept on an educational topic, a story, photo or news article about a class doing a hands on educational project are acceptable. The deadline for submission is on Sunday, November 15, 2009. Send your files via e-mail to Dave, AA4KN (aa4kn at amsat.org) with a Cc: to Gaston, ON4WF, gaston (dot) bertels (at) skynet (dot) be.

[ANS thanks ARISS and the ARRL for the above information]

/EX

SB SAT @ AMSAT $ANS-312.02
AMSAT Board Votes to Add a Student Membership

AMSAT News Service Bulletin 312.02
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.02

During the November 3, 2009 Board meeting the motion to add a student membership category was unanimously approved. The student membership will be one half of the current membership. Until we update the web site and membership forms, please contact Martha at the AMSAT office to join at the student rate.

The approved motion reads:

"In order to expand its educational outreach efforts, AMSAT-NA establishes a student category of membership. The yearly rate will be half the standard applicable rate, and shall be available to all students in primary and secondary school. Post-secondary school students enrolled in at least half time status shall be eligible for a maximum of 6 post-secondary years in this status. In addition, the student membership

application should indicate:
1) school attending.
2) course of study.
3) expected graduation date."

[ANS thanks the AMSAT Board of Directors for the above information]

/EX

SB SAT @ AMSAT $ANS-312.03
November AO-51 Schedule Includes V, U, L, SSTV

AMSAT News Service Bulletin 312.03
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.03

The AO-51 Control Team has posted the satellite schedule for the
month of November and the first week of December:

November 6 - November 12

FM Repeater, V/U
Uplink: 145.920 MHz FM
Downlink: 435.300 MHz FM

9k6 BBS, L/U
Uplink: 1268.700 MHz 9k6 FM
Downlink: 435.150 MHz 9k6 FM

November 13 - November 15

ZS1LS requested a weekend of the QRP repeater for the AMSAT-SA
group to use. QRP gets such little use here, and we had a request
for SSTV, so we are going for dual use this weekend.

FM Repeater, V/U
Uplink: 145.920 MHz FM
Downlink: 435.300 MHz FM

FM repeater, V/U SSTV and AMSAT-SA Event
Uplink: 145.880 MHz FM
Downlink: 435.150 MHz FM

November 16 - November 19

38k4 BBS, L/U
Uplink: 1268.700 MHz 9k6 FM
Downlink: 435.150 MHz 38k4 FM

November 20 - November 25

FM Repeater, V/U
Uplink: 145.920 MHz FM
Downlink: 435.300 MHz FM

9k6 BBS, L/U
Uplink: 1268.700 MHz 9k6 FM
Downlink: 435.150 MHz 9k6 FM

November 26 - November 29

FM Repeater, V/U
Uplink: 145.920 MHz FM
Downlink: 435.300 MHz FM

FM repeater, L/U
Uplink: 1268.700 MHz FM
Downlink: 435.150 MHz FM

November 30 - December 6

For the reversal, the Control Team is going to use the chargeable magnet to reverse the orientation of AO-51 so the downlink antennas and the L/S antenna will favor the southern hemisphere.

We have not done this before. We'll need as many quantitative observations before and after the flip as possible, especially from the Southern Hemisphere. Tentative plans are to flip it on a Tuesday or Wednesday after collecting some 5 second telemetry WOD files as a baseline.

FM Repeater, V/U
Uplink: 145.920 MHz FM
Downlink: 435.300 MHz FM

9k6 BBS, L/U
Uplink: 1268.700 MHz 9k6 FM
Downlink: 435.150 MHz 9k6 FM

The latest AO-51 Control Team news can be found on-line at:
http://www.amsat.org/amsat-new/echo/CTNews.php

[ANS thanks Mark N8MH, Drew KO4MA and the AO-51 Control Team for the above information]

/EX

SB SAT @ AMSAT $ANS-312.04
SO-67 Testing Progress

AMSAT News Service Bulletin 312.04
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.04

South African amateur radio operators testing on the Sumbandila SO-67 satellite have reported receiving very strong downlink signals. Occasionally the satellite beacon was not copied but the parrot repeater and transponder were operational. The SO-67 operations team posted these hints for operation:

The CTCSS tone for the transponder is 233.6 Hz.

Uplink: 145.875MHz
Downlink: 435.345MHz

Additional recommendations:
Use only narrow FM
Switch off compression
Speak softly (mic gain down)

Satellite characteristics:
All antennas are linear vertically polarized (1/4 wavelength)

Sat Tx power = 5W
Sat Rx sensitivity = -116.5dBm for 12dB SINAD
Max antenna gain = 4dBi

Video taken by Sumbandila satellite at 500km received over S-band at
the ground station in Stellenbosch, South Africa can be seen at:
http://tinyurl.com/yg4mymz

[ANS thanks SA-AMSAT for the above information]

/EX

SB SAT @ AMSAT $ANS-312.05
Dish Calculation Software Released by VK3UM

AMSAT News Service Bulletin 312.05
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.05

Although principally designed for the EME community VK3UM's
EMECalc Ver. 7.00 software also contains tools that satellite
dish users may find useful.

Doug, VK3UM says his software provides the capability to select
various feed types (derived from Paul W1GHZ simulations), and match
it your own dish f/d. This allows prediction of spill over and then
simplies the correct selection of a feed to match your dish. This
match provides several dB of performance improvement.

The software in a zip format may be obtained from
http://sm2cew.com/download.htm
http://www.ve1alq.com/vk3um/
http://www.vk3bez.org/vk3um_software.htm (available shortly)

[ANS thanks Doug, VK3UM for the above information]

/EX

SB SAT @ AMSAT $ANS-312.06
Satellite Shorts From All Over

AMSAT News Service Bulletin 312.06
>From AMSAT HQ SILVER SPRING, MD.
November 8, 2009
To All RADIO AMATEURS
BID: $ANS-312.06

+ Watch for possible AO-51 operation from the 2009 DXpedition to
  Miquelon with Eric, KV1J and Tom, W8TOM operating as FP/homecall
  between November 7-15. Miquelon Island is also desginated NA-032,
  the grid square is GN17TC. QSL via home calls, direct or bureau.
  Further information at: http://www.kv1j.com/fp/october09.html

+ Trevor, M5AKA says there are 3 KiwiSAT videos on YouTube:
  View them via the SouthGate site at: http://tinyurl.com/ylepffp

+ SwissCube has an application that allows amateur stations in
  range of the spacecraft to listen and forward the BPSK downlink
  data to the SwissCube team. Details are at:
  http://swisscube-live.ch/RadioAmateurs/DownlinkForwarder

Note - you need to register to use this application.

+ Pedro, LU7ABF reported AMSAT-Argentina's satellite predictor page can be found at http://amsat.org.ar/?f=d After setting your grid locator you get next passes in local time at your location.

+ Doug, KA8QCU reminds hams going to the Ft. Wayne, Ind. Hamfest, Nov. 14-15 that there will be an AMSAT Forum on Sat. the 14th at 1:15pm. More info at: http://www.fortwaynehamfest.com

+ Jim, N8OQ is collecting AO-7 telemetry from the anomalous 435.1 MHz RTTY telemetry event during February and March 2009. Good quality telemetry is defined as being collected continuosly for at least 4 minutes during a pass. Jim is also interested in any archives of AO-7 telemetry the "early days" before 1981 if any exists. Contact Jim via e-mail at: deyoung_james (at) yahoo.com

+ Satellite hams following the news about Neil's W6FOG sailing trip will be pleased to hear he has recovered and plans to be back out to sea soon. As of November 2 Neil had survived very bad weather and high seas along with hypothermia. The sea was so heavy his tow line to the Coast Guard cutter broke three times during the rescue. When he heads out this weekend his plans are to travel along the west coast to the Panama Canal and to the Caribbean.

+ November 5 was OSCAR College Station Satellite Night. Please forward reports and comments/observations to Dr. Jay Garlitz, AA4FL at the University of Florida via jgarlitz@ufl.edu.

+ Jeff, WB3JFS is compiling a list of "most wanted grids". Send your list via e-mail by November 14 to <callsign>@amsat.org. Please do not send any "water grids" since any operation from them is sporadic and most cases, impractical to activate for most of us.

[ANS thanks everyone for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And, with that ponder the question why don't skeletons cross the road? Its probably because they don't have the guts.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM